

## AMENDMENTS TO THE SPECIFICATION

*Please replace the paragraphs at page 23 line 25 to page 30 line 16 with the following paragraphs:*

For Figure 5:

cytochrome c oxidase subunit Vic sense oligo

5'-NH<sub>2</sub>-ctgtttgtcactgggtgacctcccgctcctgtgggcgctccacgggcctggtctacgggccttcag-3'

(SEQ ID NO: 1)

Beta actin sense oligo

5'-NH<sub>2</sub>-tggaacggtgaaggtgacagcagtcggttgagcgagcatccccaaagttcacaatgtggccgaggact-3;

(SEQ ID NO: 2)

For Figure 6:

CAPTURE SEQUENCES:

1 (glutamyl-prolyl-tRNA synthetase):

gagggttccaggttatattcctggccagttttctccttatattcagct-NH<sub>2</sub> (SEQ ID NO: 3)

2 (Homo sapiens cDNA clone IMAGE:4093756, partial cds):

acacatccgtctcctctgcgatataaccaaattggtgttgacggttgaat-NH<sub>2</sub> (SEQ ID NO: 4)

2B: ttaatgtttctaacaaagcgtatcatgcaaacggagattagaggttatac-NH<sub>2</sub> (SEQ ID NO: 5)

3 (hypothetical protein FLJ14668):

taaggagtcagctcatcctagcccaagttgcttacttttctcccttga-NH<sub>2</sub> (SEQ ID NO: 6)

4 (3-ketoacyl CoA thiolase beta-subunit of mitochondrial trifunctional protein, exon 8, 9, 10):

ccgtagggcttgatgaatgcaggttttagtttgccatctgtccagtga-NH<sub>2</sub> (SEQ ID NO: 7)

5 (chromatin assembly factor 1, subunit B (p60)):

tggtgtgcactttcacgaggatgccagggaggactcactgattttcacact-NH2 (SEQ ID NO: 8)

5B: atactctaaaattcgacagagtaaaatctcaaatactttctcatcttcc-NH2 (SEQ ID NO: 9)

6 (transcription factor 3, TCF3):

actgctgtttcttctcctcgcgcgtgggtgaatctcgtttgaattctatg -NH2 (SEQ ID NO: 10)

7 (cDNA FLJ37123 fis):

cggaagttggaggcgtcatgcagcgcctcctgcctgggagccaggcgatc-NH2 (SEQ ID NO: 11)

7S:

NH2-atcgctggctcccaggcaggaggcgtgcatgacgcctccaacttccg (SEQ ID NO: 12)

8 (adenosine monophosphate deaminase 2, isoform L):

aacaccactcccggggttgagtggcagatccaggactttgcagcaactgt-NH2 (SEQ ID NO: 13)

8B: tatgaaacactgcagttcacagcaaaggcctcagtcagaacacaacata-NH2 (SEQ ID NO: 14)

9 (chromatin assembly factor 1, subunit B (p60)):

tggtgtgcactttcacgaggatgccagggaggactcactgattttcacact-NH2 (SEQ ID NO: 15)

10 (isoleucine-tRNA synthetase):

tgtaacctgctcccaacatgactgcataggtgtctaagggttaagtgtgaa-NH2 (SEQ ID NO: 16)

11 (seryl-tRNA synthetase):

tggtttcatcagtcataatgatgggtccctatgccatgcgaggagaca-NH2 (SEQ ID NO: 17)

12 (Ribosomal Protein L32):

tactcattttcttctcactgcgcagcctggcattgggggttggtgactctgat-NH2 (SEQ ID NO: 18)

13 (actin, beta):

actgggccattctccttagagagaagtggggtggccttttaggatggcaag–NH2 (SEQ ID NO: 19)

13S:

NH2-ttgccatcctaaaagccaccccacttctcttaaggagaatggcccagt (SEQ ID NO: 20)

14 (ubiquitin B):

atcttgcccttcacattttcgaatgggtgactgggctccacctccagagt–NH2 (SEQ ID NO: 21)

For Figure 7:

CAPTURE SEQUENCES:

1 (glutamyl-prolyl-tRNA synthetase):

gagggtttccaggttatattcctggccagttttctcctatattcagct–NH2 (SEQ ID NO: 3)

2 (Homo sapiens cDNA clone IMAGE:4093756, partial cds):

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2B: ttaatgtttctaacaaagcgtatcatgcaaacggagattagaggttatac–NH2 (SEQ ID NO: 5)

3 (hypothetical protein FLJ14668):

taaggagtcagctcatcctagcccaagttgcttactttttctccctga–NH2 (SEQ ID NO: 6)

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ccgtagggccttgatgaatgcaggttttagttggccatctgctccagtga–NH2 (SEQ ID NO: 7)

5 (chromatin assembly factor 1, subunit B (p60)):

tgtgtgcactttcacaggatgccaggaggactcactgattttcacact–NH2 (SEQ ID NO: 8)

5B: atactctaaaattcgacagagtaaaatctcaaattactttctcatcttcc-NH2 (SEQ ID NO: 9)

6 (transcription factor 3, TCF3):

actgctgtttctctcctcgcgctgggtgaatctcgttgaattctatg -NH2 (SEQ ID NO: 10)

7 (cDNA FLJ37123 fis):

cggaagttggaggcgtcatgcagcgctcctgcctgggagccaggcgtc-NH2 (SEQ ID NO: 11)

7S:

NH2-atgcctggctcccaggcaggaggcgtgcatgacgcctccaactccg (SEQ ID NO: 12)

8 (adenosine monophosphate deaminase 2, isoform L):

aacaccactccggggtgagtggcagatccaggactttgcagcaactgt-NH2 (SEQ ID NO: 13)

8B: tatgaaactgcagttcacagcaaaggcctcagtcacagaacacaacata-NH2 (SEQ ID NO: 14)

9 (chromatin assembly factor 1, subunit B (p60)):

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tgtaacctgctcccaacatgactgcataggtgtctaaggttaagtgtgaa-NH2 (SEQ ID NO: 16)

11 (seryl-tRNA synthetase):

tggtttcatcagtcacatgatgggtccctatgcccatgcgaggagaca-NH2 (SEQ ID NO: 17)

12 (Ribosomal Protein L32):

tactcattttctcactgcgcagcctggcattggggttggtgactctgat-NH2 (SEQ ID NO: 18)

13 (actin, beta):

actgggccattctccttagagagaagtggggtggcttttaggatggcaag-NH2 (SEQ ID NO: 19)

13S:

NH2-ttgccatcctaaaagccaccccacttctcttaaggagaatggcccagt (SEQ ID NO: 20)

14 (ubiquitin B):

atcttggccttcacatttctgatggtgtcactgggctccacctccagagt-NH2 (SEQ ID NO: 21)

For Figure 8:

#### CAPTURE SEQUENCES

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2 (Homo sapiens cDNA clone IMAGE:4093756, partial cds):

acacatccgtctcctctgcgatataaccaaagtgtgttgacgggtgaat-NH2 (SEQ ID NO: 4)

2B: ttaatgtttctaacaagcgatatcatgcaaacggagattagaggttatac-NH2 (SEQ ID NO: 5)

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taaggagtcagctcatcctagcccaagtgcttacttttctccctga-NH2 (SEQ ID NO: 6)

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5B: atactctaaaattcgacagagtaaaatctcaaattactttctcatctcc-NH2 (SEQ ID NO: 9)

6 (transcription factor 3, TCF3):

actgctgtttctctcctcgcgctgggtgaatctcgttgattctatg -NH2 (SEQ ID NO: 10)

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7S:

NH2-atgcctggctcccaggcaggaggcgtgcatgacgcctccaactccg (SEQ ID NO: 12)

8 (adenosine monophosphate deaminase 2, isoform L):

aacaccactccccgggtgagtggcagatccaggactttgcagcaactgt–NH2 (SEQ ID NO: 13)

8B: tatgaaactgcagttcacagcaaaggcctcagtcagaacacaacata–NH2 (SEQ ID NO: 14)

9 (chromatin assembly factor 1, subunit B (p60)):

tgtgtgcactttcacgaggatgccaggaggactcactgattttcacact–NH2 (SEQ ID NO: 15)

10 (isoleucine-tRNA synthetase):

tgtaacctgctcccaacatgactgcataggtgtctaaggttaagtgtgaa–NH2 (SEQ ID NO: 16)

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tggtttcatcagtcataatgatgggtccctatgccatgcaggagaca–NH2 (SEQ ID NO: 17)

12 (Ribosomal Protein L32):

tactcattttctcactgcgcagcctggcattggggttggtgactctgat–NH2 (SEQ ID NO: 18)

13 (actin, beta):

actgggccattctccttagagagaagtggggtggcttttaggatggcaag–NH2 (SEQ ID NO: 19)

13S:

NH2-ttgccatcctaaaagccaccccacttctctctaaggagaatggcccagt (SEQ ID NO: 20)

14 (ubiquitin B):

atcttggccttcacattttc gatggtgtcactgggctccacctccagagt–NH2 (SEQ ID NO: 21)

For Figure 9:

Capture oligos were AarrayControl Sense oligo Spots 1-8 (sequence not available)  
(Cat#1781, Ambion, Austin, Texas, USA)

The detection probe oligonucleotides designed to detect target RNA sequences comprise a steroid disulfide linker at the 5'-end followed by the recognition sequence. The sequences for the probes are described:

For Figure 1:

5'-S-aaaaaaaaaaaaaaaaaaaaA-3' (SEQ ID NO: 22)

For Figure 2:

5'-S-aaaaaaaaaaaaaaaaaaaa-3' (SEQ ID NO: 22)

For Figure 3:

5'-S-aaaaaaaaaaaaaaaaaaaa-3' (SEQ ID NO: 22)

For Figure 4:

5'-S-aaaaaaaaaaaaaaaaaaaa-3' (SEQ ID NO: 22)

For Figure 5:

5'-S-ttttttttttttttttt-3' (SEQ ID NO: 23)

For Figure 6:

5'-S-ttttttttttttttttt-3' (SEQ ID NO: 23)

For Figure 7:

5'-S-ttttttttttttttttt-3' (SEQ ID NO: 23)

For Figure 8:

5'-S-ttttttttttttttttt-3' (SEQ ID NO: 23)

For Figure 9:

5'-S-ttttttttttttttttt-3' (SEQ ID NO: 23)

S indicates a connecting unit prepared via an epiandrosterone disulfide group;

*Please replace the paragraphs at page 31 line 30 to page 32 line 16 with the following paragraphs:*

Figure 1 Probe: gold-S'-5'-aaaaaaaaaaaaaaaaaaaaa-3' (SEQ ID NO: 22)

Figure 2 Probe: gold-S'-5'- aaaaaaaaaaaaaaaaaaaaaa -3' (SEQ ID NO: 22)

Figure 3 Probe: gold-S'-5'- aaaaaaaaaaaaaaaaaaaaaa -3'(SEQ ID NO: 22)

Figure 4 Probe: gold-S'-5'-aaaaaaaaaaaaaaaaaaaaa -3' (SEQ ID NO: 22)

Figure 5 Probe: gold-S'-5'-ttttttttttttttttttt-3' (SEQ ID NO: 23)

Figure 6 Probe: gold-S'-5'-ttttttttttttttttttt -3' (SEQ ID NO: 23)

Figure 7 Probe: gold-S'-5'-ttttttttttttttttttt -3' (SEQ ID NO: 23)

Figure 8 Probe: gold-S'-5'-ttttttttttttttttttt -3' (SEQ ID NO: 23)

Figure 9 Probe: gold-S'-5'-ttttttttttttttttttt -3' (SEQ ID NO: 23)

*Please replace the paragraph at page 33 line 28 to page 34 line 8 with the following paragraph:*

15 nm gold nanoparticles were functionalized with poly dA (20mer) (5'-aaaaaaaaaaaaaaaaaaaaa-3'; SEQ ID NO: 24). In order to compare the fluorescent signal and the universal nanoparticle probe signal, the corresponding 6 RNA targets (each about 1Kb in length and each containing a 30mer poly A tail) were reverse transcribed with poly dT primer (18mer) in the presence of Cy3- or Cy5-labeled nucleotides purchased from Amersham (Piscataway, NJ, USA) using the procedure recommended by the manufacturer. The reverse transcription was carried out by mixing different amounts of



the 6 RNA targets to generate a target concentration gradient. For example, in one tube, 100ng RNA-1, 10ng RNA-2, 10ng RNA-3, 1ng RNA-4, 0.1ng RNA-5 and 0ng RNA-6 were mixed together and labeled with Cy3. In another tube, 0.1ng RNA-1, 1ng RNA-2, 10ng RNA-3, 10ng RNA-4, 100ng RNA-5 and 0ng RNA-6 were mixed together and labeled with Cy5. The purified labeled targets of each tube were diluted in final volume of 50ul.